



U.S. Food and Drug Administration



Department of
Health and
Human Services

CENTER FOR FOOD SAFETY AND APPLIED NUTRITION

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KATRINA *Recovery Update*

Hurricane Katrina Recovery Information

Food Safety Information

- [FDA Offers Valuable Food Safety Information for Hurricane Aftermath](#) August 13, 2004;
Updated August 29, 2005
(also available in [French](#) and [Spanish](#))
- [FSIS/FDA Guidelines for Retail and Foodservice Establishment Affected by Natural or Other Disasters](#) October 4, 2005
- [Guidance for Industry: A Notice to Growers, Food Manufacturers, Food Warehouse Managers, and Transporters of Food Products on Decontamination of Transport Vehicles](#) October 7, 2005

NEW

Recent Bulletins from FDA/CFSAN

- Bulletin 3 - September 13, 2005: [A Notice to Growers, Food Manufacturers, Food Warehouse Managers, and Transporters of Food Products on How to Dispose of Contaminated Food](#)
- Bulletin 2 - **Updated** September 28, 2005: [Seafood Availability and Safety](#)
- Bulletin 1 - September 2, 2005: [A Notice to Growers, Food Manufacturers, Food Warehouse Managers, and Transporters of Food Products About the Safety of Food Affected by Hurricane Katrina](#)

Additional Information from FDA and HHS

- [Health and Safety After Hurricane Katrina](#) (FDA)
- [Disasters & Emergencies: Hurricanes](#) (HHS)

For more information on safe food handling, go to [www.FoodSafety.gov: Disaster Assistance](http://www.FoodSafety.gov:DisasterAssistance) or call FDA's toll-free information line at 1-888-SAFEFOOD (1-888-723-3366).

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FDA/Center for Food Safety & Applied Nutrition
Hypertext updated by [cjm/dms](#) October 11, 2005



August 13, 2004; Updated August 29, 2005 and September 19, 2005

FDA Offers Valuable Food Safety Information for Hurricane Aftermath

(This document also available in [Spanish](#) and [French](#))

The Food and Drug Administration (FDA) is providing important tips to help people affected by these storms to protect their health and food supply. As Hurricane Katrina has been predicted to hit the Gulf Coast, the FDA wants area residents to be prepared for the storm and its aftermath.

If flooding occurs, an immediate evaluation of the stored food and water supply should be done. Perishable food such as meat, poultry, seafood, milk and eggs that are not properly refrigerated or frozen may cause illness if consumed, even when it is thoroughly cooked.

Here's what FDA suggests consumers can do at home to keep their food safe:

Food safety when the power goes out

- Keep the refrigerator and freezer doors closed as much as possible to maintain the cold temperature. The refrigerator will keep food cold for about 4 hours if it is unopened. A full freezer will keep the temperature for approximately 48 hours (24 hours if it is half full) if the door remains closed. Buy dry or block ice to keep the refrigerator as cold as possible if the power is going to be out for a prolonged period of time. Fifty pounds of dry ice should hold an 18-cubic foot fully-stocked freezer cold for two days.
- If you plan to eat refrigerated or frozen meat, poultry, fish or eggs while they are still at safe temperatures, it's important that the food is thoroughly cooked to the proper temperature to assure that any food borne bacteria that may be present is destroyed.
- Wash fruits and vegetables with water from a safe source before eating.
- For infants, if possible, use prepared, canned baby formula that requires no added water. When using concentrated or powdered formulas, prepare with bottled water if the local water source is potentially contaminated.

Once the power is restored

- Once the power is restored you will need to evaluate the safety of the food. If an appliance thermometer was kept in the freezer, read the temperature when the power comes back on. If the

thermometer stored in the freezer reads 40 degrees F or below the food is safe and may be refrozen. If a thermometer has not been kept in the freezer, check each package of food to determine the safety. Remember, you can't rely on appearance or odor. If the food still contains ice crystals or is 40 degrees F or below, it is safe to refreeze or cook.

- Refrigerated food should be safe as long as the power is out for no more than 4 hours. Keep the door closed as much as possible. Discard any perishable food (such as meat, poultry, fish, eggs or leftovers) that has been above 40 degrees F for two hours or more.

Food and Water Safety During Hurricanes and Floods

- Hurricanes, especially if accompanied by a tidal surge or flooding, can contaminate the public water supply. Drinking contaminated water may cause illness. You cannot assume that the water in the hurricane-affected area is safe to drink. Listen to local announcements for updated information on the safety of the water supply.
- If bottled water is not available and the safety of tap water is questionable, follow these directions to purify it:
 - If you have a heat source available, boil the water vigorously (water should be bubbling and rolling for 1 to 3 minutes). (www.cdc.gov)
 - If you can't boil water, add 8 drops of newly purchased, unscented liquid household bleach per gallon of water, stir it well and let the water stand for 30 minutes before you use it. Note that using bleach will not kill parasitic organisms. ([EPA - Emergency Disinfection of Water](#))
 - You can also use water-purifying tablets from your local pharmacy or sporting goods store. (www.cdc.gov)
 - Do not eat any food that may have come into contact with flood water. Discard any food without a waterproof container if there is any chance that it has come into contact with floodwater. Undamaged, commercially canned foods can be saved if you remove the labels, thoroughly wash the cans and disinfect them with a solution consisting of 1/4 cup of bleach per gallon of water for clean surfaces. Re-label your cans, including the expiration date, with a marker. Food containers with screw-caps, snap lids, and home canned foods should be discarded if they have come in contact with flood water because they cannot be disinfected.
 - Discard wooden cutting boards, plastic utensils, baby bottle nipples and pacifiers. There is no way to safely clean them if they have come in contact with contaminated flood waters. Thoroughly wash metal pans, ceramic dishes and utensils with soap and hot water. They should then be sanitized by boiling in clean water or immersing them for 15 minutes in a solution of 1/4 cup of chlorine bleach per gallon of water.

For more information on safe food handling, go to www.foodsafety.gov or call FDA's toll-free information line at 1-888-SAFEFOOD (1-888-723-3366).

For more information see: www.FoodSafety.gov - Consumer Advice: Disaster Assistance

For more hurricane assistance, see
[Health and Safety After Hurricane Katrina](#) (FDA) and
[Disasters & Emergencies: Hurricanes](#) (HHS).

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FDA/Center for Food Safety & Applied Nutrition
Hypertext updated by [cjm/dav/dms](#) October 2, 2005



August 29, 2005; Updated September 19, 2005

La FDA offre d'importantes informations relatives à la sécurité des aliments après le cyclone

(This document in [English](#))

L'agence américaine des aliments et des drogues (Food and Drug Administration - FDA) fournit d'importants conseils pour aider les personnes touchées par ces ouragans afin de protéger leur santé et l'approvisionnement en aliments. Il est prévu que le cyclone Katrina frappe la côte du Golfe et la FDA souhaite que les résidents de cette zone soient préparés pour faire face à l'ouragan et à ses conséquences.

En cas d'inondations, une évaluation des aliments stockés et de l'approvisionnement en eau devra immédiatement être exécutée. La consommation de denrées périssables telles que la viande, la volaille, le poisson, le lait et les œufs, mal réfrigérées ou mal congelées peut causer des maladies, même si elles ne sont pas consommées crues.

Voici ce que la FDA suggère aux consommateurs afin de conserver leurs aliments en bon état :

Sécurité des aliments quand l'électricité est coupée

- Ouvrez le moins possible les portes du réfrigérateur et du congélateur afin d'y maintenir le froid. Le réfrigérateur conservera les aliments froids pendant environ 4 heures s'il n'est pas ouvert. Un congélateur plein conservera la température pendant environ 48 heures (24 heures s'il est à moitié plein) si la porte reste fermée. Achetez de la glace carbonique ou en blocs pour maintenir le réfrigérateur aussi froid que possible si vous devez rester pendant une période prolongée sans électricité. Cinquante livres de glace carbonique devraient maintenir le froid d'un congélateur plein de 18 pieds cubes pendant deux jours.
- Si vous voulez consommer de la viande, des volailles, du poisson ou des oeufs réfrigérés ou congelés pendant qu'ils sont encore à des températures acceptables, il est important de bien les cuire à la température adéquate pour s'assurer que toute bactérie éventuellement contenue dans l'aliment est détruite.
- Lavez les fruits et les légumes avec de l'eau provenant d'une source sûre avant de les consommer.
- Pour les nourrissons, utilisez si possible des formules toutes prêtes, en conserve, dans lesquelles il n'est pas nécessaire d'ajouter de l'eau. Si vous utilisez des formules concentrées ou en poudre,

préparez-les avec de l'eau minérale si votre source d'eau locale est susceptible d'être contaminée.

Quand l'électricité est rétablie

- Une fois l'électricité rétablie, vous devrez évaluer l'état des aliments. S'il y a un thermomètre dans le congélateur, lisez la température lorsque le courant revient. Si la température indiquée par le thermomètre du congélateur est de 40 degrés F ou moins, les aliments ne présentent pas de risque et peuvent être recongelés. S'il n'y a pas de thermomètre dans le congélateur, vérifiez chaque emballage d'aliment pour en déterminer le risque. Ne vous fiez surtout pas à l'aspect ni à l'odeur. Si l'aliment contient encore des cristaux de glace ou qu'il est à une température de 40 degrés F ou moins, il peut être recongelé ou cuisiné sans risques.
- Les aliments réfrigérés sont en principe sans risques si l'électricité n'est pas coupée pendant plus de 4 heures. Évitez autant que possible d'ouvrir la porte. Jetez toute denrée périssable (par exemple, viande, volaille, poisson, œufs ou restes) ayant été exposée à une température de plus de 40 degrés F pendant deux heures ou plus.

Sécurité des aliments et de l'eau pendant les cyclones et les inondations

- Les cyclones, en particulier s'ils sont accompagnés d'un raz-de-marée ou d'inondations, peuvent contaminer le réseau d'eau public. La consommation d'eau contaminée peut entraîner des maladies. Ne présumez pas que l'eau de la zone touchée par le cyclone est potable. Écoutez les annonces locales pour obtenir des informations actualisées sur la potabilité de l'eau.
- Si vous ne pouvez pas obtenir d'eau minérale et que la potabilité de l'eau du robinet est douteuse, suivez ces conseils pour la purifier :
 - Si vous disposez d'une source de chaleur, faites bouillir l'eau vigoureusement (l'eau doit faire des bulles et frémir pendant 1 à 3 minutes). (www.cdc.gov)
 - Si vous ne pouvez pas faire bouillir l'eau, ajoutez 8 gouttes d'eau de Javel non parfumée récemment achetée par gallon d'eau, remuez bien et laissez l'eau reposer pendant 30 minutes avant de l'utiliser. Attention : l'eau de Javel ne tue pas les organismes parasitaires. ([EPA - Désinfection d'urgence de l'eau](#))
 - Vous pouvez également vous procurer des tablettes de purification d'eau chez votre pharmacien ou dans les magasins d'articles de sport. (www.cdc.gov)
 - Ne consommez aucun aliment ayant pu être en contact avec l'eau en crue. Jetez tout aliment se trouvant dans un conteneur non hermétique s'il risque d'avoir été en contact avec l'eau en crue. Les boîtes de conserve vendues dans le commerce, non endommagées, peuvent être utilisées si vous les nettoyez bien. Enlevez les étiquettes, lavez bien les boîtes et désinfectez-les avec une solution composée de ¼ de tasse d'eau de Javel par gallon d'eau. Remettez une étiquette sur vos boîtes de conserve en indiquant la date de péremption avec un marqueur. Les bocaux d'aliments avec des couvercles vissés, des couvercles à pression et les aliments mis en conserve à la maison doivent être jetés s'ils ont été au contact de l'eau en crue car ils ne peuvent pas être désinfectés.

- Jetez les planches à découper en bois, les ustensiles en plastique, les tétines des biberons et les sucettes des bébés. Il n'existe aucun moyen de les nettoyer pour qu'aucun risque ne subsiste s'ils ont été en contact avec les eaux des inondations. Lavez bien les récipients métalliques, la vaisselle en porcelaine et les ustensiles avec du savon et de l'eau chaude. Désinfectez-les ensuite en les faisant bouillir dans de l'eau propre ou en les faisant tremper pendant 15 minutes dans une solution composée d'1/4 de tasse d'eau de Javel par gallon d'eau.

Pour plus d'informations sur la manipulation sans risques des aliments, visitez le site www.foodsafety.gov ou appelez le numéro gratuit d'information de la FDA : 1-888-SAFEFOOD (1-888-723-3366).

Pour plus d'informations, consultez : www.FoodSafety.gov - [Conseils aux consommateurs : Assistance catastrophes](#)

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FDA/Center for Food Safety & Applied Nutrition
Hypertext updated by [dav/jbh/cjm/dms](#) September 19, 2005



August 29, 2005; Updated September 19, 2005

La FDA ofrece valiosa información sobre el mantenimiento de los alimentos después del huracán

(This document in [English](#))

La Administración de Drogas y Alimentos (FDA, por sus siglas en inglés) proporciona consejos importantes para ayudar a las personas afectadas por estas tormentas a proteger su salud y el suministro de alimentos. Como se pronosticó que el huracán Katrina golpeará la costa del Golfo, la FDA quiere que los residentes del área estén preparados para la tormenta y sus secuelas.

Cuando ocurre una inundación, se procederá a la evaluación inmediata de los alimentos almacenados y del suministro de agua. Los alimentos perecibles, como carne, pavo, pescados y mariscos, leche y huevos, que no estén adecuadamente refrigerados o congelados pueden causar enfermedad si se consumen, incluso si están bien cocidos.

A continuación se encuentran las sugerencias de la FDA sobre lo que los consumidores pueden hacer en casa para conservar sus alimentos:

Mantenimiento de los alimentos cuando no hay electricidad

- Mantenga las puertas del refrigerador y el congelador cerradas tanto como sea posible a fin de mantener la temperatura fría. El refrigerador mantendrá fríos los alimentos durante aproximadamente 4 horas si se mantiene cerrado. Un congelador lleno mantendrá la temperatura durante aproximadamente 48 horas (24 horas si está medio lleno) si la puerta se mantiene cerrada. Compre hielo seco o cubos de hielo para mantener el refrigerador lo más frío posible si se corta la electricidad durante un período prolongado. Cincuenta libras de hielo seco mantienen frío un congelador lleno de 18 pies cúbicos por dos días.
- Si planea comer carne, pavo, pescado o huevos refrigerados o congelados mientras aún están a una temperatura segura, es importante que los alimentos se cocinen a la temperatura apropiada para asegurar que toda bacteria presente en la comida sea destruida.
- Lave las frutas y las verduras con agua proveniente de una fuente segura antes de comerlas.
- En el caso de los bebés, si es posible, use fórmula preparada y enlatada que no requiera agregar

agua. Cuando use fórmulas concentradas o en polvo, prepárelas con agua embotellada si la fuente de agua local está potencialmente contaminada.

Cuando vuelva la electricidad

- Cuando vuelva la electricidad tendrá que evaluar la seguridad de los alimentos. Si se mantuvo un termómetro para refrigerador en el congelador, lea la temperatura cuando vuelva la electricidad. Si el termómetro en el congelador indica 40 grados F o menos, los alimentos se pueden volver a congelar. Si no se mantuvo un termómetro en el congelador, revise cada envase de alimentos para determinar su integridad. Recuerde que no se puede confiar en la apariencia o el olor. Si los alimentos aún contienen cristales de hielo o están a 40 grados F o menos, puede volver a congelarlos o cocinarlos.
- Los alimentos refrigerados se conservan si la electricidad vuelve en 4 horas o menos. Mantenga las puertas cerradas lo máximo posible. Deseche cualquier alimento perecible (como carne, aves, pescados y mariscos, huevos y sobras) si estuvieron a más de 40 grados F durante mas de dos horas.

Mantenimiento de los alimentos y el agua durante huracanes e inundaciones

- Los huracanes, especialmente si vienen acompañados de una subida de la marea o inundaciones, pueden contaminar el suministro público de agua. Consumir agua contaminada puede causar enfermedades. No asuma que el agua que se encuentra en el área afectada por el huracán sea potable. Escuche los comunicados locales para obtener información actualizada sobre la seguridad del suministro de agua.
- Si no hay agua embotellada y la seguridad del agua del grifo es dudable, siga las siguientes instrucciones para purificarla:
 - Hierva el agua de 1 a 3 minutos. (www.cdc.gov)
 - Si no puede hervir agua, agregue 8 gotas de cloro doméstico líquido, sin aroma y recién comprado, por cada galón de agua. Revuélvalo bien y deje reposar el agua 30 minutos antes de usarla. Tenga en cuenta que el cloro no eliminará los parásitos. ([EPA: Desinfección de emergencia del agua](#))
 - También puede usar tabletas purificadoras de agua, las que puede adquirir en su farmacia local o en la tienda de artículos deportivos. (www.cdc.gov)
 - No consuma ningún alimento que pueda haber entrado en contacto con agua contaminada. Deseche cualquier alimento que no tenga un envase sellado. Los alimentos enlatados comercialmente que no estén dañados se pueden guardar si les quita las etiquetas, lava bien las latas y las desinfecta con una solución de 1/4 taza de cloro por cada galón de agua para limpiar las superficies. Vuelva a identificar las latas, incluyendo la fecha de vencimiento, con un marcador. Los envases de alimentos con tapas roscas, tapas a presión y alimentos enlatados en casa se deben desechar si entran en contacto con agua contaminada ya que no se pueden desinfectar.

- Deseche las tablas para cortar de madera, los utensilios plásticos, los biberones y los chupetes. No hay forma de limpiarlos de forma segura si entran en contacto con agua contaminada. Lave bien las ollas metálicas, los platos y los utensilios de cerámica con jabón y agua caliente. Luego se deben desinfectar hirviéndolos en agua limpia o sumergiéndolos durante 15 minutos en una solución de 1/4 taza de cloro por cada galón de agua.

Para obtener más información sobre la conservación de alimentos, visite www.foodsafety.gov o llame a la línea de información gratuita de la FDA al 1-888-SAFEFOOD (1-888-723-3366).

Para obtener más información visite: [Consejos para el consumidor: Asistencia en caso de desastre](#).

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FDA/Center for Food Safety & Applied Nutrition
Hypertext updated by [dav/dms](#) September 19, 2005



FSIS/FDA Guidelines for Retail and Foodservice Establishments Affected by Natural or Other Disasters

During and following a natural disaster, such as Hurricane Katrina, there are potential health concerns that can be created by the disruptions caused by the disaster. We are providing these guidelines because retail and foodservice establishments may be forced to shut down due to power outages, an influx of flood waters, contamination of potable water supplies, or structural damage to buildings. Such actions may affect the integrity of a food establishment's existing supply of food and may potentially have lingering effects on the operation.

Purpose:

These guidelines provide emergency action food safety suggestions and information for retail and foodservice establishments resuming business in the aftermath of natural or other disasters.

Emergency Assessment:

Disruptions such as an interruption of electrical service or potable water supply can create public health concerns about food safety. Therefore, food establishment management should conduct an evaluation of their facilities and inventory to determine whether it can continue to provide safe food. Perishable foods such as meat, poultry, milk and egg products, if not properly refrigerated, especially for an extended length of time as may be the case in a power outage, can cause illness if consumed, even after they have been thoroughly cooked. Most foods that have come into contact with flood waters should be considered contaminated and must be denatured or destroyed and discarded in accordance with local or state laws and regulations.

General Considerations

- Prior to reopening, establishment persons-in-charge (PICs) should conduct a complete self-inspection to ensure that normal operations can be resumed safely and without compromising food safety. Establishments required to cease operations in an emergency or those affected by a natural disaster should not re-open until authorization is granted by the local regulatory authority.
- The owner or operator of any food establishment should notify the health department (provide 24/7 contact information) before opening for business. A temporary or conditional operating license/permit might be considered if all public utilities, etc. are not yet available.
- Other applicable provisions of the state Food Code or local ordinance must be followed as usual.
- These recommendations are for limited food service operations such as either cook-serve, service of foods that do not require cooking, or operations requiring minimal food preparation.

- For full service operations involving complex food preparation (e.g., cooking, cooling, and reheating of foods), complete reinstatement of all public utilities is necessary before reopening.

Potable Water

- If no potable municipal water supply, non-community public water system (NCPWS) or private well water is available to the food establishment, potable water should be brought in (tanks, bottled water, "water buffalos", etc.) for food preparation, cooking, utensil and food contact surface washing/rinsing/sanitizing and handwashing. It is important to ensure there is an adequate amount of potable water available for these tasks.
 - The source of the potable water should be identified. (i.e., bottled water, well water or municipal water supply). Water that is delivered must meet Environmental Protection Agency's (EPA) drinking water standards and must come from an approved potable water supply.
 - If tanker trucks are used, previous contents (water, milk, eggs, or other foods), cleaning and sanitizing methods, and location (i.e., Where did the truck come from? Where was cleaning and sanitizing done? Where will the truck be kept?) should be identified.
 - Single service utensils (paper/plastic plates, forks, spoons, knives) should be used.
 - A gravity-fed, potable water supply, soap and paper towels should be provided in the food preparation area for handwashing.
 - A small food establishment with 3 employees uses about 500 gallons of water a day. A major clean-up effort could use twice as much water.

Electricity

- If no electricity is available for refrigeration and frozen storage in the food establishment:
 - provide continuous refrigeration by the use of generators or ice (wet or dry ice). If dry ice is used in enclosed spaces such as walk-in refrigerators, make sure there is adequate ventilation to avoid the harmful affects of a build-up of carbon dioxide.
 - the volume and type of potentially hazardous food requiring refrigeration should be limited to very simple foods whenever possible (e.g., hot dogs, eggs, cheeses, cultured dairy products, hard summer sausage or salami, and other foods with preservatives).
 - Consider obtaining alternative refrigerated warehouse space outside of the affected area.
- If no electricity or gas is available for water heaters, water can be heated using alternate methods such as electrical generators for electrical power or propane heaters. As a safety precaution, advise the utility company when using a generator and use it in a properly ventilated area.

Sewer

- If sewage connection is inoperable or in disrepair a holding tank can be obtained to store wastewater on a temporary basis. Contact the local wastewater authority for an approved pump and haul company to pump wastewater tanks and portable toilets for proper disposal.
- Until the water supply is reestablished consider obtaining portable toilets for employee and consumer use. When the portable toilets do not have handwashing facilities attached, alternative handwashing facilities should be provided for use by food employees in an accessible location (i.e., gravity-fed, potable water supply, soap and paper towels).
 - If non-potable water is used to flush toilets, it should be posted when faucets provide water that it is not for drinking.

- Upon the restoration of potable water supply all plumbing lines should be adequately flushed and all fixtures cleaned and sanitized.

Structural Integrity of Facility

- Condition of the physical structure of the establishment should be in compliance with local building and occupancy codes in a manner that does not compromise the safe and sanitary handling of food and equipment and the safety of employees.
- All mud and debris should be removed from inside and outside of premises (if outside standing water is contaminated soil may also be contaminated).
- Ensure the interior and exterior of the facility is structurally sound and that there are no opportunities for water/moisture, or pests, to enter the facility.
- Prohibit the storage and/or preparation of food in areas of the facility that are not deemed structurally sound.

Pest Control

- Ensure that any rodents/pests that may have entered the facility are no longer present. Remove dead pests and sanitize any food-contact surfaces that have come in contact with pests.
- Seal all openings into the facility to prevent future entry of pests, rodents, or pets.

Damaged Food Products:

- Evaluate the usability of any food, and packaging materials that have been submerged under flood waters. Unsalvageable food items are those that are irreparably damaged by microbiological, chemical, or physical contaminants, or goods exposed to conditions making such contamination likely. Most food containers, equipment, and packaging materials will not be salvageable.
 - Fresh fruits and vegetables that have been inundated by flood waters cannot be adequately cleaned and should be destroyed.
 - Refrigerated and frozen foods, such as meat, poultry, shell eggs, egg products, and milk, that have been immersed in flood waters, should be destroyed. **If in doubt throw it out.**
 - Products in containers with screw-caps, snap-lids, crimped-caps (soda pop bottles), twist-caps, flip-top, snap-open, and similar type closures that have been submerged in flood waters cannot be reconditioned.
 - Food packed in plastic, paper, cardboard, cloth and similar containers that have been water damaged cannot be salvaged.
 - Foods in hermetically sealed cans (top and bottom double seams) that have been under water may be reconditioned and relabeled under certain conditions.
- Proper and safe disposal of condemned food items must be in a manner that ensures that the items will not be easily accessible to consumers in trash containers or reappear as damaged merchandise in any outlet that would permit public consumption. Disposal of such items should be conducted properly and in a manner consistent with food safety requirements in that jurisdiction.
- Foods subject to direct contact with non-potable water are not salvageable.

Equipment:

- Clean, repair and disinfect all surfaces affected by flood waters, including:

- Non-food contact surfaces (e.g., floors, walls, ceilings)
- Food contact surfaces, using potable water (e.g., equipment, utensils, etc.)
- A commercial dishwasher or 3-compartment sink should be utilized to wash, rinse, and sanitize equipment and utensils using potable water, and:
 - Chlorine bleach or other approved sanitizers should be provided for sanitizing food contact surfaces and equipment.
 - An approved test kit should be available to ensure appropriate sanitizer strength.
- Refrigerated display and storage cases and other refrigerator equipment used to store food should be cleared of all contaminated products and their juices prior to cleaning.
- Refrigerated storage equipment should be thoroughly washed inside and outside with a hot detergent solution and rinsed free of detergents and residues (Special attention should be given to lighting, drainage areas, ventilation vents, corners, cracks and crevices, door handles and door gaskets).
- Any exhaust systems and hoods should be thoroughly cleaned and freed of any debris. Consult professional service technicians, as needed.
- All filters on equipment should be removed and replaced if not designed to be cleaned in place.
- All sinks should be thoroughly cleaned and sanitized before resuming use.
- Equipment should be inspected to ensure it is operational and that all aspects of its integrity are maintained.
- Stove units should be thoroughly cleaned and checked by the fire department, local utility company, or authorized service representative prior to use.

Maintaining Food Temperatures

- Ensure that the facility has the capability to achieve the appropriate cooking temperature for raw animal foods and to consistently maintain potentially hazardous foods at both hot (>135°F) and cold (<41°F) temperatures.
- Verify that all equipment used for food preparation (e.g., cooking, cooling, reheating) is functioning and properly calibrated prior to use.

Employees

- Determine if there are an adequate number of trained employees to staff each area of the operation during normal working hours.
- Alcohol hand gels may be used **after handwashing**. Hand sanitizers or gels are not a substitute for handwashing.
- Employees should not touch foods with their bare hands, but instead should use tongs, deli paper, or single-use, disposable gloves.
- Employees with open wounds should not work with hands-on preparation of foods or with cleaned and sanitized food contact surfaces or single-service/single-use utensils.
- Employees sick with vomiting or diarrhea should not be working in the establishment.

US GOVERNMENT RESOURCES

Consult the [US Department of Agriculture's Food Safety and Inspection Service](#) for guidance on disaster response in regards to meat, poultry, and egg products.

Consult the [US Food and Drug Administration](#) for guidance on disaster response in regards to all other food products and for science-based information on food safety for retail and food service industries.

Consult with the [US Environmental Protection Agency](#) for guidance on disaster response in regards to potable water supply, wastewater and soil erosion and contamination.

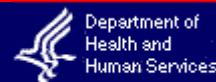
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CFSAN/Office of Plant and Dairy Foods

October 7, 2005

Guidance for Industry

A Notice from the Food and Drug Administration to Growers, Food Manufacturers, Food Warehouse Managers, and Transporters of Food Products on Decontamination of Transport Vehicles

Contains Non-Binding Recommendations

Comments and suggestions regarding this document may be submitted at any time. Submit comments to the Dockets Management Branch (HFA-305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852.

For questions regarding this document, contact Michael E. Kashtock at the Center for Food Safety and Applied Nutrition (CFSAN) at (Tel) (301) 436-2022, (Fax) (301) 436-2651, or email

Michael.Kashtock@fda.hhs.gov.

Additional copies are available from:

Office of Plant and Dairy Foods

Division of Plant Product Safety HFS-305

Center for Food Safety and Applied Nutrition

Food and Drug Administration, 5100 Paint Branch Parkway

College Park, MD 20740

<http://www.cfsan.fda.gov/guidance.html>

U.S. Department of Health and Human Services

Food and Drug Administration

Center for Food Safety and Applied Nutrition

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October 7, 2005

Guidance for Industry

A Notice from the Food and Drug Administration to Growers, Food Manufacturers, Food Warehouse Managers, and Transporters of Food Products on Decontamination of Transport Vehicles

This guidance represents the Food and Drug Administration's (FDA's) current thinking on this topic. It does not create or confer any rights for or on any person and does not operate to bind FDA or the public. You may use an alternative approach if the approach satisfies the requirements of the applicable statutes and regulations. If you want to discuss an alternative approach, contact the FDA staff responsible for implementing this guidance. If you cannot identify the appropriate FDA staff, call the appropriate number listed on the title page of this guidance.

This guidance is intended to provide information and references that can be used for the decontamination of food transport vehicles following Hurricanes Katrina and Rita in August/September 2005. The scope of this guidance is limited to decontamination of trucks, rail cars, and cold storage units that were flooded or otherwise impacted by the hurricanes, before being placed back in service to transport or store food.

FDA's guidance documents, including this document, do not establish legally enforceable responsibilities. Instead, guidance documents describe the Agency's current thinking on a topic and should be viewed only as recommendations, unless specific regulatory or statutory requirements are cited. The use of the word should in Agency guidance means that something is suggested or recommended, but not required.

Guidance

All food transport vehicles that have been subjected to flood waters should be decontaminated before being returned to service to transport or store food. If not decontaminated, they should be used for other purposes or decommissioned and/or placed in salvage.

Decontamination should be accomplished in a manner which remediates any insanitary condition due to the presence of harmful microorganisms or chemical residues, or filth that could adulterate food transported in the vehicle. Upon decontamination, the condition of the vehicle should be such that any food in the vehicle will be protected against physical, chemical and microbial contamination, as well as against deterioration of the food and the container, as required by 21 CFR 110.93. Normal decontamination procedures such as chemical sanitization or disinfection should be adequate for this purpose.

The decontamination of transport vehicles such as trucks, rail cars, and cold storage units should be performed by a person qualified to provide such services. The person should be knowledgeable of the applicable requirements of the Occupational Safety and Health Administration (OSHA), the Environmental Protection Agency (EPA), and the Department of Transportation (DOT). Although training and certification requirements may differ according to state regulation, personnel performing

such activities should have the necessary credentials for their particular jurisdiction.

The person performing the decontamination should be able to provide assurance that the procedure has been properly performed, including any testing for efficacy, as appropriate.

Several types of disinfectant or sanitizing agents may be used (e.g., chlorine, iodine, phenolic and quaternary ammonium compounds, aldehydes). Since the internal surfaces of the vehicles or units may vary (e.g., steel, aluminum, fiberglass, etc.), a specific agent is not identified in this guidance. The person providing the service should ensure that any use of a disinfectant or sanitizer complies with all of the applicable requirements of the Environmental Protection Agency (EPA). For example, some surfaces may require repeat applications to ensure that the surface is treated for the required contact time. At concentrations known to be effective for proper disinfection, some disinfectants may also react with the inner surfaces of the vehicles and units. Therefore, it is recommended that owners of vehicles and units first consult with the person providing the service.

In addition:

- Trucks and units should not be returned to service if they contain any interior wood or porous surfaces that may have become contaminated in any manner that would create an insanitary condition for food transport or storage. Prior to placing such vehicles back in service, trucks or units should be refitted with new wood or another suitable material. Refitting should occur after decontamination.
- Trucks and units with damaged interior surfaces (e.g. cracked fiberglass, exposed seams, etc.) should be handled appropriately to ensure adequate decontamination of those areas with limited access.
- Attention should be given to decontamination of refrigeration units (e.g. ductwork and coils). Assure that filters are replaced (if equipped).
- All applicable state and local standards should be met.
- The decontamination should remove all offensive odors.

For questions concerning implementation of this guidance for the affected geographic area, contact the [FDA District or Regional office](#) for your area.

Related Links:

[Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Human Food](#)

The Environmental Protection Agency (EPA) Office of Pesticide Programs - "[What are Antimicrobial Pesticides?](#)"

Antimicrobial products registered with the EPA as sterilizers (available in [PDF](#))

CDC National Institute for Occupational Safety and Health (NIOSH) - Safety and Health Topic: [Emergency Response Resources](#)

[Food and Cosmetic Guidance Documents](#)

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FDA/Center for Food Safety & Applied Nutrition



KATRINA *Recovery Update*

September 13, 2005

Bulletin 3

A Notice from the Food and Drug Administration To Growers, Food Manufacturers, Food Warehouse Managers, and Transporters of Food Products On How to Dispose of Contaminated or Spoiled Food

Many acres of grain and vegetable crops, and many food manufacturing facilities, food warehouses, and food transporters were flooded or lost power as a result of Hurricane Katrina, so the Food and Drug Administration (FDA) is providing important tips on how to properly dispose of contaminated or spoiled food. For food products that should be destroyed see [Notice to Food Industry](#) and food products that may, under certain circumstances, be reconditioned for future use, see the [FDA Investigations Operations Manual, Subchapter 940](#).

Disposing of Contaminated or Spoiled Food

Decisions about disposing of food products are usually made by the owner of the product, along with the appropriate state agency and local authorities. In determining which contaminated food products should be disposed of, reconditioned or salvaged, the owners of the products must assess each product's quality, safety and condition.

Depending on the applicable local, state, and Federal regulations, owners may be able to dispose of contaminated food products in a landfill, by incineration, or rendering.

Key questions to consider when disposing of contaminated food include:

- What is (are) the contaminant(s)?

- How the contaminated food is categorized (e.g. hazardous waste, municipal waste, radiological waste, non-hazardous waste requiring special handling, or unknown)?
- What is the quantity of the contaminated product for disposal?
- Where is the final disposal facility?
- What are the logistics for moving the contaminated products from the site to the disposal facility?
- Is transportation required for the transfer of waste to the final disposal site?
- What are the required permits associated with the disposal process and how are they procured? Is assistance from state, local, and Federal government agencies required?
- Is there a health and safety protection plan for the workers who will be involved in the disposal process? If so, what is the plan?
- Who and what organizations will be involved in overseeing the disposal process?
- What organizations must be involved and concur with re-introducing the reconditioned product into the marketplace?

Oversight

FDA oversight ensures proper disposal so that contaminated products cannot be introduced into the food supply. Likewise, oversight by the Environmental Protection Agency or environmental quality authorities ensures that the contaminated products are disposed of in a manner that protects against further contamination of air, groundwater, or soil.

Vehicles Used in Transporting Contaminated Food Products

For vehicles, equipment, or localized contamination in facilities, the state (with FDA consultation and oversight) makes a determination as to when and whether the decontaminated vehicles, equipment, or facilities may be used for their original food-related purposes or for other purposes. And importantly, food producers will require these government officials to reissue the appropriate permits for startup and operation as well as the release of impounded vehicles or equipment.

In the case where any of the contamination or cleanup may expose the workforce, then additionally food producers must consult with the Department of Labor/Occupational Safety and Health Administration

For further information about disposing of contaminated, spoiled food as well as reconditioning, contact the Office of Compliance, Center for Food Safety and Applied Nutrition (301) 436-2359 or FDA's Nashville District Office (615) 781-5388 or FDA's Atlanta Regional Office (404) 253-1171.

[Hurricane Katrina Recovery Information](#)

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KATRINA *Recovery Update*

September 12, 2005; Updated September 23, 2005 and September 28, 2005

Bulletin 2

FDA Hurricane Katrina Recovery Update Seafood Availability and Safety

September 28, 2005 Update

At sunset on September 23, 2005 the State of Louisiana closed the molluscan shellfish beds in Terrebonne Parish and all areas west to the Louisiana-Texas state line (harvest areas 15-28). The closure is a precautionary measure taken because of the possible adverse environmental effects of Hurricane Rita. The harvest areas will remain closed until the State is confident that the waters are free of bacterial and chemical contamination that could affect the safety of eating raw oysters. The prior closure of Louisiana molluscan shellfish harvest areas 1-14 remains in effect.

September 23, 2005 Update

As of September 22, Alabama has reopened oyster beds in portions of Areas I, II, and III of Mobile Bay that were closed as a result of the hurricane. In addition, all non-molluscan shellfish waters and other fishery harvest waters in Alabama have reopened. Similarly, as of September 16, the only Louisiana molluscan shellfish beds that remain closed as a result of the hurricane are those east of the Atchafalaya River (harvest areas 1-14). The molluscan shellfish beds in Mississippi are still closed.

All other advice from FDA's September 12 Bulletin 2 continues to be in effect.

September 12, 2005

FDA is working with industry to ensure that the seafood that is currently offered for sale in your local market is safe.

With the extensive flooding, power outages, and damage to buildings as a result of Hurricane Katrina, consumers and those in the food industry may have concerns about the safety of food, especially the Gulf Coast's seafood products, exposed to hurricane damage. Although the damage by Hurricane Katrina is extensive, industry, states, and federal food safety officials have well established systems and methods to produce safe food and ensure seafood safety. At this time, FDA offers the following advice:

Seafood Caught Prior to the Hurricane but Affected by Hurricane Damage

All seafood exposed to flood waters or that has spoiled due to lack of refrigeration, is considered unfit for the human food supply and must be destroyed. FDA is currently working with the states and local officials to visit seafood processors, packagers, and transporters to help them determine if any of their remaining stored product is safe. Companies can consult [A Notice to Growers, Food Manufacturers, Food Warehouse Managers, and Transporters of Food Products About the Safety of Food Affected by Hurricane Katrina](#) for information about the safety of products affected by hurricane-related damage. FDA is not aware of any seafood from the affected areas that has entered the commercial marketplace since the hurricane.

Seafood Caught and/or Processed After the Hurricane

Steps are underway to ensure that seafood caught and processed in the areas affected by the hurricane is safe for consumption. Currently all commercial fishing waters in Alabama are closed, as are the molluscan shellfish (oysters, clams, and mussels) beds in Louisiana and Mississippi. As the hurricane-damaged regions recover, fishing, shrimping, crabbing, and the harvesting of molluscan shellfish are anticipated to resume in the near future. Further, for processed seafood FDA requires processors to have controls in place to prevent contamination of their product. Any food processing facilities or equipment exposed to waste products, petroleum products, chemical, biological or other hazards during the hurricane must be brought back into compliance before processing resumes.

Consumer Advice

Sport fishermen should check local advisories about the safety of fish in local lakes, rivers, and costal areas affected by the hurricane before resuming fishing.

For additional FDA Hurricane Katrina Recovery Updates please visit www.cfsan.fda.gov.

[Seafood](#) | [Hurricane Katrina Recovery Information](#)

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KATRINA *Recovery Update*

September 2, 2005

Bulletin 1

A Notice From The Food and Drug Administration to Growers, Food Manufacturers, Food Warehouse Managers, and Transporters of Food Products About the Safety of Food Affected by Hurricane Katrina

In the aftermath of the tragic and devastating Hurricane Katrina we are certainly worried about the health and welfare of all our families, friends, and pets in the Southeastern United States. It is important, as we put our homes and lives back together, to remember that these events also have a lingering and potentially hazardous public health impact. Many acres of grain and vegetable crops, and many food manufacturing facilities, food warehouses, and food transporters were flooded or lost power as a result of Hurricane Katrina. In some areas, crops along with other processed food and food products were completely submerged in flood water and may have been exposed to sewage, chemicals, heavy metals, pathogenic microorganisms or other contaminants. In addition to direct presence of contaminants, mold and toxins may develop in the crops and food products as a result of exposure to the water. In many other instances power has been lost and perishable or frozen foods are at risk of spoiling.

As a result, the federal Food and Drug Administration (FDA) has determined that certain foods exposed to these waters and perishable foods that are not adequately refrigerated are adulterated and should not enter the human food supply. In addition, crops and other food commodities exposed to flood waters from Hurricane Katrina would not be acceptable for use in animal feed. FDA is also providing guidance in determining when food products can be reconditioned for future use. The information follows.

FOODS THAT SHOULD BE DESTROYED

Crops

Crops exposed to flooding are considered adulterated and should not enter human food channels. There is no practical method of reconditioning these crops that will provide a reasonable assurance of human food safety. Therefore, the FDA recommends that these crops be disposed of in a manner that ensures they are kept separate from crops that have not been flood damaged to avoid adulterating "clean" crops. Grains and similar products stored in bulk can also be damaged by flood waters. These flood damaged products should not be used for human and animal food.

Fresh Fruits and Vegetables

Fresh fruits and vegetables that have been inundated by flood waters cannot be adequately cleaned and should be destroyed. Fresh fruits and vegetables that have begun to spoil due to the lack of refrigeration should also be destroyed. These food items may be considered for diversion to animal feed under certain circumstances.

Food Requiring Refrigeration and Freezing

Refrigerated and frozen foods, including beverages such as milk, that have been immersed in flood waters must be destroyed. Storage vats or sealed tanks of milk in processing plants that have been under water cannot be reconditioned. Foods that have begun to spoil due to the lack of refrigeration must also be destroyed. These food items may be considered for diversion to animal feed under certain circumstances.

Food in Screw-Top, Crimped-Cap, and Similar Containers

Products in containers with screw-caps, snap-lids, crimped-caps (soda pop bottles), twist-caps, flip-top, snap-open, and similar type closures that have been submerged in flood waters cannot be reconditioned. Sediment and debris from flood water that have may become lodged under the cap lips, threads, lugs, crimps, snap-rings are impossible to remove, especially after they have dried.

Food Packed in Plastic, Paper, Cardboard, Cloth, and Similar Containers

Food packed in these containers, which have been water damaged, cannot be salvaged.

THE FOLLOWING PRODUCTS MAY, UNDER SOME CIRCUMSTANCES, BE RECONDITIONED FOR FUTURE USE

Reconditioning Hermetically Sealed (Top and Bottom Double Seam) Cans

Products in this type of container that have been under water may be reconditioned and relabeled under certain conditions.

General rules for reconditioning foods can be found on the FDA Web site at www.fda.gov/ora/

[inspect_ref/iom/ChapterText/940.html](#).

For further information about human food, contact the Office of Compliance, Center for Food Safety and Applied Nutrition (301-436-2359). For animal feed questions contact the Office of Compliance, Center for Veterinary Medicine (240-276-9200).

This is a mirror of the page at <http://www.fda.gov/oc/katrina/foodindustrykatrina.html>

For more information, see [FDA Offers Valuable Food Safety Information for Hurricane Aftermath](#) (Also available in [Spanish](#)). .

[Health and Safety After Hurricane Katrina](#) | [Hurricane Katrina Recovery Information](#)

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